Notice of Allowability	Application No.	Applicant(s)	
	10/009,513	MURAI ET AL.	
	Examiner	Art Unit	
	Marc S. Zimmer	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the telephone interviews of February 9, 2004 and February 20, 2004*.

2. ☒ The allowed claim(s) is/are *1-4,6-10,12-19 and 24-27*.

3. ☐ The drawings filed on _____ are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Robert Green on February 20, 2003.

Please replace claims 1-19 and 24-27, some of which are in original form and some of which have been amended with the following:

1. (currently amended) An optical element comprising a primer layer between an organic glass base material and a silicone based hardening coating film, said primer layer comprising: a primer layer formation polymer; wherein the primer layer formation polymer is a polyester based thermoplastic elastomer, also known as ester based TPE.

2. (previously presented) A primer composition that forms all or part of a primer layer between an organic glass base material and a silicone based hardening coating film comprising: a primer layer formation polymer; wherein the primer layer formation polymer is an ester based TPE, and the primer layer further comprises a metal oxide particle; wherein the metal oxide particle is an optical interference control agent.

3. (previously presented) The primer composition as claimed in Claim 2, characterized in that weight ratio of hard segment and soft segment of said ester based TPE is the former / the latter = 30 / 70 – 90 / 10, and said ester based TPE indicates surface hardness (Shore hardness D): 35–75, bend elasticity: 40–800 MPa.

4. (previously presented) The primer composition as claimed in Claim 1, characterized in that weight ratio of hard segment and soft segment of said ester based

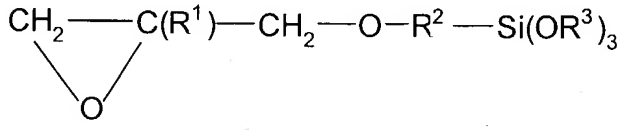
TPE is the former / the latter = 30 / 70 – 90 / 10, and said ester based TPE indicates surface hardness (Shore hardness D): 35–75, bend elasticity: 40–800 MPa.

5. (canceled)

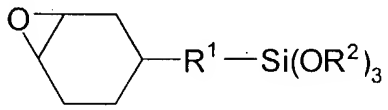
6. (currently amended) The silicone based hardening coating film of claim 1, wherein a hard coat composition that forms said silicone based hardening coating film is a hard coat composition consisting of hydrolysate of alkoxysilane whose main body is trialkoxysilane containing a monoepoxy organic group as a matrix formation ingredient, and titanium based metal oxide complex particle as an optical interference control agent, and said titanium based metal oxide complex particle is consists of TiO_2 as a main ingredient, and SiO_2 as a major sub-ingredient, and further, ZrO_2 and K_2O as a trace sub-ingredient.

7. (currently amended) The silicon based hardening coating film of Claim 6, wherein for said titanium based metal oxide complex particle, average diameter thereof is made as one being in a range of 1–50 nm, composition thereof is made as one satisfying each weight ratio of SiO_2 / TiO_2 = 0.1900–0.2100, ZrO_2 / TiO_2 = 0.0015–0.023, K_2O / TiO_2 = 0.0012–0.012, content thereof is in a range of 40–100 weight portions to 100 weight portions of whole alkoxysilane content.

8. (currently amended) The silicon based hardening coating film of Claim 7, wherein said trialkoxysilane containing said monoepoxy organic group consists of one or more than species selected from the group represented by general formula (1):



(where R^1 represents H or CH_3, R^2 represents alkylene group having 1–4 of carbon atoms and R^3 represents alkyl group having 1–4 of carbon atoms), or represented by general formula (2):



(where R^1 represents alkylene group having 1–4 of carbon atoms and R^2 represents alkyl group having 1–4 of carbon atoms).

9. (currently amended) The silicon based hardening coating film of Claim 8, wherein the hardening composition further contains in addition to said trialkoxysilane containing said monoexpoxy organic group a tetraalkoxysilane represented by general formula (3):

$Si\ (OR^1)_4$

(where R^1 represents alkyl group having 1–4 of carbon atoms), the content of the tetraalkoxysilane being 20wt% or less of the total content of said alkoxysilane.

10. (currently amended) The silicon based hardening coating film of Claim 9, wherein said hard coat composition contains an organic metal compound as a hardening agent of the matrix formation ingredient, the relevant organic metal compound consists of one or more species selected from the group of chelate compounds of Cr (III), Co (III), Fe (III), Zn (II), In (III), Zr (IV), Y (III), Sn, V, Al (III), Ti (II) with which chelating agent selected from ethylenediamine-tetraacetic acid, hexafluoroacetylacetone, trifluoroacetylacetone, acetylacetone and methyl acetoacetate coordinates.

11. (canceled)

12. (currently amended) A method of forming an optical element comprising the steps of:

forming a hard coat layer on a surface of an organic glass base material via a primer layer,

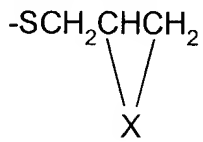
wherein said primer layer comprises a primer layer formation polymer wherein all or part of the primer layer formation polymer is an ester based TPE,

wherein said hard coat layer comprises a hard coat composition, said hard coat composition comprising hydrolysate of alkoxysilane whose main body is trialkoxysilane containing monoepoxy organic group as a matrix formation ingredient, and titanium based metal oxide complex particle as an optical interference control agent, and

wherein said titanium based metal oxide complex particle comprises TiO_2 as a main ingredient, SiO_2 as a major sub-ingredient and further ZrO_2 and K_2O as a trace sub-ingredient.

13. (previously presented) The method of forming an optical element as claimed in Claim 12, wherein said primer composition further comprises a metal oxide particle as an optical interference control agent.

14. (currently amended) The method of forming an optical element as claimed in Claim 12 or 13, wherein said organic glass base material is obtained by polymerizing and reacting (1) one or more active hydrogen compounds selected from the group consisting of polyols, polythiols and hydroxy compounds having a mercapto group, and (2) one or more compounds selected from the group of polyisothiocyanate compounds or isothiocyanate compounds having an isocyanate group, or a compound obtained by polymerizing and reacting episulfide having cyclic skeleton having two or more equivalents of a structure represented by general formula (4):



where X represents S or O and the amount of S is 50% or more on average with respect to total of S and O constituting the three membered ring.

15. (previously presented) The method of forming an optical element as claimed in Claim 12, further comprising the step of laminating a reflection prevention film layer on said hard coat layer.

16. (currently amended) The method of forming an optical element as claimed in Claim 15, wherein said reflection prevention film whose design center wavelength λ is made in a range of 450–550 nm, has a multilayer structure having a medium refractive index layer having an optical film thickness of 0.19–0.29λ, a high refractive index layer having an optical film thickness of 0.42–0.58λ, and a low refractive index layer having an optical film thickness of 0.19–0.29λ are in turn formed.

17. (currently amended) The method of forming an optical element as claimed in Claim 16, wherein said medium refractive index layer and said high refractive index layer are comprised of an equivalent film comprising two or more layers having different refractive index substances.

18. (previously presented) A method of forming an optical element as claimed in claim 15, 16 or 17, further comprising the step of film-forming method of a reflection prevention film, wherein ion cleaning processing is performed on said hard coat layer surface prior to the film-forming of a reflection prevention film.

19. (previously presented) The method of forming an optical element as claimed in Claim 18, wherein film-forming of at least high refractive index layer out of said reflection prevention films is performed by vapor deposition using an ion beam assist method.

20. (canceled)

21. (canceled)

22. (canceled)

23. (canceled)

24. (currently amended) A method of forming optical element comprising the steps of:

forming a hard coat layer on an organic glass base material surface via a primer layer and

sublimely dyeing an organic glass base material, ;

wherein said primer layer comprises a primer layer formation polymer wherein all or part of the primer layer formation polymer is an ester based TPE,

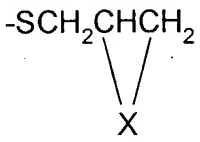
wherein said hard coat layer comprises a hard coat composition, said hard coat composition comprising hydrolysate of alkoxysilane whose main ingredient is trialkoxysilane containing monoepoxy organic group as a matrix formation ingredient, and titanium based metal oxide complex particle as an optical interference control agent,

wherein said titanium based metal oxide metal complex particle comprises TiO_2 as a main ingredient, SiO_2 as a major sub-ingredient and further ZrO_2 and K_2O as a trace sub-ingredient, and

wherein the composition used for said sublimation type dyeing step comprises a an acrylic resin sizing agent, a water insoluble dye, and an organic solvent having 8–11 of a SP value (resolving property parameter) as a dye resolving agent.

25. (previously presented) The method of forming an optical element as claimed in Claim 24, wherein said primer composition further contains a metal oxide particle as an optical interference control agent.

26. (currently amended) The method of forming an optical element as claimed in Claim 24 or 25, wherein said organic glass base material is obtained by polymerizing and reacting (1) one or more active hydrogen compounds selected from the group of polyols, polythiols, and hydroxy compounds having a mercapto group, and (2) one or more compounds selected from the group of polyisothiocyanate compounds or isothiocyanate compounds having an isocyanate group, or a compound obtained by polymerizing and reacting episulfide compounds having cyclic skeleton having two or more of equivalents of a structure represented by general formula (4):



where X represents S or O and the amount of S is 50% or more on average with respect to total of S and O constituting the three membered ring.

27. (previously presented) A method of using the primer composition of any of claims 1, 2, 3 or 4, whereby the primer layer is placed between said organic glass base material and said silicone based hardening coating film to form an optical element.

Upon receiving Applicant's response, it was noted that Applicant had amended not only the claims of elected group I but also those of un-elected groups II, III, and IV. In their response, it was stated that that they had done so in an attempt to establish unity of invention with respect to all of the groups. In a telephone interview with the Applicant, the Examiner explained that Applicant had been partially successful in their endeavor however unity of invention issues remained. Applicant was given direction as to how the claims could be rewritten so as to fully establish unity of invention among all of the claims. (The recommendations were carefully constructed so as to ensure that the

altered claims would not necessitate a new expanded search including limitations not previously addressed. That is, in searching for the polyester TPE of group I, claims 1-4, the Examiner had also searched for its utilization as an adhesive for promoting the bonding of an organic glass layer and a hard organosilicon layer. Accordingly, Applicant was advised to rewrite the claims in a manner such that they would have been covered by the original search.) A subsequent discussion between Applicant and the Examiner on the aforementioned date to correct various grammatical yielded the final version of the claims outlined above.

Allowable Subject Matter

Claims 1-4, 6-10, 12-19, and 24-27 are deemed allowable for the simple reason that the Examiner could not locate a single teaching of a multilayered product featuring a polyester-based thermoplastic-elastomer layer next to a layer derived from silicon-based materials.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

February 20, 2004

MARGARET G. MOORE
PRIMARY EXAMINER